This invention provides a method of protecting a primate from an infectious organism by stimulating the production of antibodies or cell mediated immunity to the infectious organism which comprises administering to said primate intranasally, intramuscularly, or subcutaneously, live recombinant adenoviruses in which the virion structural protein is unchanged from that in the native adenovirus from which the recombinant adenovirus is produced, and which contain the gene coding for the antigen corresponding to said antibodies or inducing said cell mediated immunity. Preferably, the infectious organism is HIV and the primate is a human.